Team 25 Project Charter

Team Members:
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Problem Statement:
One of the main goals of any website is to be interactive and engaging with its visitors. Sometimes, pages such as directories can be simply a little boring. To solve this, we are utilizing the objects and pictures on the page itself to create a lighthearted battle game. This is similar to the way that Google gravity functions, but more involved in the sense that there is a real game to be played. The Purdue Computer Science directory is one page that we have picked out that could use our idea to add a new feature, and that will encourage more CS students to utilize the page.

Project Objectives:
1. Pull and duplicate elements from Purdue Computer Science department websites to create a visually identical website for game play, turning the new pages into a character selection page with a game menu and a game "arena" page.
2. Create functionality to support the movement of any element from the department webpage (buttons, text, images, etc.), which the character and opponent will use as their "weapons" in the game.
3. Create stage transitions so game play moves to new webpages for each level of the game. These transitions may occur if a character is defeated, after a certain amount of time, and/or if there are no more elements that can be thrown.
4. Create a computer opponent that uses AI to avoid thrown objects, select elements to throw, and aims/throws items at the game player's character.
5. Generate status bars to track and display the health of the character and opponent.
6. Establish and implement a system to determine how the health meter decreases. Update the health status with each thrown object that hits the player or opponent, until an empty health meter indicates the winner of the game.

Stakeholders:
Users: Students who want a more engaging version of the CS department website. Or students who just want a quick mental break from the monotony of reading course descriptions and viewing other details about the CS department on the department website.
Developers: Arianna Smith, Isaac Kuehn, John Sommerfeld, Justin Michaels, Sarah Thomas
Project Manager: Danielle Xie
Project Owners: Arianna Smith, Isaac Kuehn, John Sommerfeld, Justin Michaels, Sarah Thomas

Deliverables:

1. A webpage that resembles the layout and structure of the Purdue CS faculty webpages and acts as a menu and starting point for the game. Functionality should include:
    a. Selectable elements which allow the user to choose ‘characters’ for their game session
2. Webpages which act as stage transitions that move users through different levels of the game. Each webpage should include the following functionality:
    a. Functionality to allow the user to control their character during the game
    b. An AI-controlled opponent character which contributes to the progress of the game by engaging with the user’s character
    c. Multiple interactable web page elements which the user can select and manipulate throughout the game
    d. Gameplay elements such as health, progress, and score displays which update consistently as the game progresses
3. An AI component used to control the play of the opponent character
4. A system of rules that define gameplay for users, including
    a. How to control the user’s character (keyboard, mousepad, etc)
    b. How different web page elements can be used to affect the health of the opponent character
    c. How to progress through levels and how game outcomes can be reached

Deliverables, usage of specific platforms/frameworks:

1. Build JavaScript backend web application that converts CS faculty web pages into game stages.
2. Build frontend JavaScript application using Phaser where the users can play the game.
3. Create a multilevel AI in JavaScript to control the opponent characters.
4. Create backend data storage so user’s progress/high score can be saved and loaded.